WHAT IS CLAIMED IS:

1. A method of increasing the half life of a viral-specific ligand on a mucosal membrane of an animal wherein said membrane is colonized with bacteria, said method comprising: contacting the mucosal membrane with a viral-specific ligand modified to bind to the surface of the bacteria colonizing the membrane.

2. The method of claim 1, wherein said viral-specific ligand is modified to bind to a bacteria colonizing the mucosal membrane said bacteria selected from the genera consisting of *Lactobacillus*, *Streptococcus*, *Staphylococcus, Lactococcus, Bacteriodes, Bacillus*, and *Neisseria.*

3. The method of claim 1, wherein said viral-specific ligand is modified by binding a bacterial-specific ligand.

4. The method of claim 3, wherein said bacterial-specific ligand is an antibody.

5. The method of claim 4, wherein said antibody is an antibody selected from the group consisting of: a single chain antibody, a F(ab), and a F(ab)2.

6. The method of claim 3, wherein said bacterial-specific ligand is comprised of a peptide, a polypeptide, a protein, a carbohydrate, or a combination thereof.

7. The method of claim 3, wherein said bacterial-specific ligand is selected from the group consisting of:

a C-terminal choline binding domain of LytA, a C-terminal choline binding domain of PspA, a C-terminal domain of lysostaphin (SPA_{CWT}), a C-terminal domain of InlB, an anti-S-layer protein antibody, and an anti-peptidoglycan antibody.

8. The method of claim 1, wherein said viral-specific ligand is modified by binding a bacterial-specific ligand to said viral-specific ligand via a bifunctional linking reagent.

9. The method of claim 1, wherein said viral-specific ligand is modified by covalently binding a bacterial-specific ligand to said viral-specific ligand.

10. The method of claim 1, wherein said viral-specific ligand and the bacterial-specific ligand are joined through a peptide linker.

11. The method of claim 3, wherein said viral-specific ligand is an antibody.

12. The method of claim 11, wherein said antibody is selected from the group consisting of: a single-chain antibody, a F(ab), and a F(ab)2.

13. The method of claim 1, wherein said viral-specific ligand is comprised of a peptide, a polypeptide, a protein, a carbohydrate, or a combination thereof.

14. The method of claim 3, wherein said viral-specific ligand is comprised of CD4, DC-SIGN, ICAM-1, HveA, HveC, poliovirus receptor, vitronectin receptor, CD21, or IgA receptor sequences.

15. The method of claim 3, wherein said viral-specific ligand is a carbohydrate.

16. The method of claim 15, wherein said carbohydrate is selected from the group comprising sialic acid and heparin sulfate.

17. A chimeric molecule comprising a viral-specific ligand and a bacterial-specific ligand wherein said bacterial-specific ligand binds to a bacteria that is an inhabitant of a mucosal membrane.

18. The chimeric molecule of claim 17, wherein said bacterial-specific ligand is an antibody.

19. The chimeric molecule of claim 17, wherein said antibody is selected from the group consisting of: a single chain antibody, a F(ab), and a F(ab)2.

20. The chimeric molecule of claim 17, wherein said bacterial-specific ligand is comprised of a peptide, a polypeptide, a protein, a carbohydrate, or a combination thereof.

21. The chimeric molecule of claim 17, wherein said bacterial-specific ligand is selected from the group consisting of:

a C-terminal choline binding domain of LytA, a C-terminal choline binding domain of PspA, a C-terminal domain of lysostaphin (SPA_{CWT}), a C-terminal domain of InlB, an anti-S-layer protein antibody, and an anti-peptidoglycan antibody.

22. The chimeric molecule of claim 17, wherein said bacterial-specific ligand binds to a bacteria selected from the genera consisting of *Lactobacillus*, *Streptococcus*, *Staphylococcus, Lactococcus, Bacteriodes, Bacillus* and *Neisseria.*

23. The chimeric molecule of claim 17, wherein said viral-specific ligand is an antibody.

24. The chimeric molecule of claim 17, wherein said viral-specific ligand is an antibody selected from the group comprising: a single chain antibody, a F(ab), a F(ab)2.

25. The chimeric molecule of claim 17, wherein said viral-specific ligand is comprised of a peptide, a polypeptide, a protein, a carbohydrate, or a combination thereof.

26. The chimeric molecule of claim 17, wherein said viral-specific ligand is comprised of CD4, DC-SIGN, ICAM-1, HveA, HveC, poliovirus receptor, vitronectin receptor, CD21 or IgA receptor sequences.

27. The chimeric molecule of claim 17, wherein said chimeric molecule is combined with a sterile aqueous solution.

28. The chimeric molecule of claim 27, wherein said solution is a physiologically compatible solution.

29. A method of manufacturing a chimeric molecule comprising the step of joining a viral-specific ligand with a bacterial-specific ligand wherein said bacterial-specific ligand binds to a bacteria that is an inhabitant of a mucosal membrane and said viral-specific ligand binds to infectious viral particles.

30. The method of claim 29, wherein said viral-specific ligand is comprised of CD4, DC-SIGN, ICAM-1, HveA, HveC, poliovirus receptor, vitronectin receptor, CD21, or IgA receptor sequences.

31. The method of claim 29, wherein said chimeric molecule is solubilized as a unit dose in a sterile, pharmaceutically acceptable solution.

32. The method of claim 29, wherein said viral-specific ligand and the bacterial-specific ligand are joined through a peptide linker.

33. The method of claim 29, wherein said viral-specific ligand and the bacterial-specific ligand are joined through a bifunctional linking reagent.

34. The method of claim 29, wherein said bacterial-specific ligand is an antibody.

35. The method of claim 29, wherein said bacterial-specific ligand is a carbohydrate.

36. A method of binding viral particles to bacteria inhabiting the mucosal membrane of an animal comprising the steps of: (i) contacting the bacteria with a viral-specific ligand having a bacterial-specific ligand; and, (ii) permitting viral particles specifically recognized by said viral-specific ligand to bind to said bacteria.

37. A system for delivering a unit dose of a chimeric molecule to nasal mucosa in a physiologically compatible solution comprising: (i) a chimeric molecule in a sterile, pharmaceutically acceptable solution, said chimeric molecule comprising a viral-specific ligand able to bind viral particles and a bacterial-specific ligand, wherein said bacterial-specific ligand binds to a bacteria that is a natural inhabitant of a healthy mucosal membrane and (ii) a container having first and second ends, wherein the first

end is a base for containing the solution and the second end is a tapered tip having an opening for delivering a metered and aerosol spray of the solution into a nasal passage.

38. The system of claim 37 where said first end is flexible and allows for the transfer of pressure from the container to the solution allowing the fluid to be emitted from said second end of the container.

39. A pharmaceutical composition comprising a therapeutically effective amount of a chimeric molecule or a viral-specific ligand modified by binding a bacterial-specific ligand.

40. The pharmaceutical composition of claim 39, wherein said pharmaceutical composition is formulated as a member selected from the group consisting of: a solution, a powder, a cream, a gel, an ointment, a douche, a suspension, a tablet, a pill, a capsule, a nasal spray, a nasal drop, a suppository and an aerosol.

41. The pharmaceutical composition of claim 39, wherein said pharmaceutical composition is formulated as a member selected from the group consisting of: a pessary, a tampon, a gel, a paste, a foam, and a spray.